

ON 'THE SOCIAL FABRIC OF INTELLIGENCE'

**HANNU RÄTY
LEILA SNELLMAN**

University of Joensuu, Finland

Abstract: In a series of studies, we focused on the problem of how the social, including social power, is woven into the fabric of intelligence. We set the analysis into the context of the school system, the major carrier system of representations of intelligence. In what ways is the social organised into the contents of representations, we asked, and in what ways does social position organise a person's representations? To shed light on these questions, we will present empirical findings about prototypes of an intelligent person, common-sense theories of intelligence, historical relationships between the school system and the modern notion of intelligence, and the conceptions of intelligence evinced by educational attitudes.

According to our findings, intelligence is associated with prominent hierarchical positions such as masculinity, high education and social success. We also found that the subjects' positions in social hierarchies (education, economic status, teacherhood and parenthood) tend to organise their representations of intelligence. In all these hierarchies, people in higher positions are inclined to regard intelligence as a 'natural' ability and to endorse a differential psychological concept of intelligence.

We conclude that the school is the originator of both the problem of individual differences and the solution to it; this solution then becomes an interpretive scheme which describes not only the school but also its acting individuals and groups.

All systems of education are based on some notions of intelligence. In the present paper, such notions are regarded as a set of social representations concerning the practices, values and ideas that make up a system called 'school'.

The problem which the school system both produces and solves is the question of individual differences. It is the principles and practices of the school that make the diversity among children an issue which can be approached and understood through a concept of intelligence (Snellman & Rätty, 1992).

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In a series of studies, we focused on the problem of how *the social*, including social power, is woven into the fabric of intelligence. The following two questions were considered.

First, in what ways the social is organised into the *contents* of representations: how hierarchies relating to gender or to educational and economic systems, for instance, are revealed in notions of intelligence. Second, in what ways *social position* organises representations: how people in different positions view intelligence and how hegemonic or polemic these views are.

To shed light on these questions, we will introduce results from studies dealing with prototypes of an intelligent person, common-sense theories of the definition and the development of intelligence, historical relationships between the school system and the modern notion of intelligence, and the views of intelligence evinced by educational attitudes.

PROTOTYPES OF INTELLIGENCE

In our study of prototypes of intelligence, we set out to investigate the characteristics that people use when describing persons whom they know personally and judge to be intelligent (cf. Goodnow, 1984; Azuma & Kashiwagi, 1987). Studies were conducted on parents' (N=69) and teachers' (N=93) descriptions of an intelligent pupil (Rätty & Snellman, 1992) and on the general public's (N=152) and children's (N=170) descriptions of an intelligent person (Rätty *et al.*, 1993).

WHO IS AN INTELLIGENT PERSON?

According to our findings, the model of intelligence is *masculine rationality* combined with social success.

With the exception of the teachers, all subject groups preferred males – whether men or boys – as best examples of an intelligent person. Cognitive attributes, especially problem-solving skills, were considered to be at the heart of adult intelligence. Moreover, cognitive capacity was attributed to intelligent males, whether men or boys, more clearly than to intelligent females, whether women or girls.

Intelligence was linked to the world of adults. The children considered an adult person, a male one typically, the best example of an intelligent person. And the parents considered school success - i.e. an adult criterion - the best indicator of a child's intelligence.

Masculinity and cognitiveness carry, of course, a high social value. Generally, intelligence was associated with a prominent social status and social success. For example, the pupils' social background and their 'cultural capital' (i.e. parents' occupation, home climate and ways of communication) appeared to be the major dimension in teachers' images of the pupils (Kuuri, 1994). There is an implicit assumption that a successful and talented pupil comes from a middle-class home.

The bond between intelligence and social status was quite evident in children's drawings, too. High status was expressed by features such as a fancy hat, good clothes and an academic or business setting. For children, the prototype of an intelligent person was an adult male, usually a professor, a scientist, or an executive, who is bald, wears eyeglasses, and is doing some important mental work. On the rather infrequent occasions

of a female being drawn as an intelligent person, she was typically pictured as either a teacher or a businesslike scientist.

The key features of the images of intelligence – masculinity, status, and knowledge – seem to show that children have captured some central value-bound ideas of intelligence prevalent in our culture well before being capable of understanding them conceptually.

One answer to the question of who is an intelligent person is that an intelligent person *cannot* be just anyone. The prototype of intelligence is determined by specific socially shared attributes.

CONCEPTIONS OF INTELLIGENCE

The second major set of studies focused on common-sense theories of intelligence. The aim was to explore the content of these theories and to examine the idea that social representations of intelligence are organised by social position or social identity, as proposed by Mugny and Carugati (1989).

We scrutinised parents', teachers' and students' conceptions of intelligence in two separate questionnaire-based studies, the first one (N=196) dealing with views on the development of intelligence and the second one (N=222) with views on the definitions of intelligence (Snellman & Rätty, 1995). In a third study, the public's (N=152) opinions on the definitions of intelligence were surveyed (Rätty, Snellman & Vornanen, 1993).

FEATURING COMMON SENSE

A structural examination based on a factor analysis demonstrated that common-sense conceptions of intelligence are multifarious, containing many controversial themes, which are also typical of the hundred-year-long scientific discussions of intelligence (e.g. Sternberg, 1990). This *many-sidedness* is an indication of the social nature of these conceptions, which are clearly linked to social disputes and conflicts of interests.

Another characteristic which showed up in the studies was people's *reluctance* to give explicit definitions of intelligence. Instead, people tend to treat the whole concept of intelligence with concern. This reluctance derives, we think, from a perception of the society as posing an intrinsic threat to the individual. Intelligence is seen as a concept enabling hierarchical categorisation and societal control of individuals.

It was found that social position tends to organise the conceptions in terms of the 'theory of natural giftedness', as suggested by Mugny and Carugati. There was evidence of *'fostererhood'* in the responses of the teachers and parents, who were more prone to attribute intelligence to inheritance than the students, i.e. people not personally involved in child rearing. The 'fosterers' are apt to set biological limitations to the development of intelligence. We also observed another notable effect associated with social position. We defined it as *teacherhood*, and it showed up as support for special education for the gifted, which was endorsed by the teachers and teacher students. This notion also entailed the belief that differences in children's intelligence emerge quite early. Consequently intelligence, seen as an individual attribute, was viewed as a valid reason for streaming pupils.

THE SCHOOL AS A CARRIER SYSTEM

The results presented above tell us something about the social contents and bonds reflected in views of intelligence. Still, something very important is missing. What we need to do is, following von Cranach (1992), to identify the social institution that needs and uses – 'carries' – the prevalent notion of intelligence in practical and ideological terms. This institution is the school, an active social system that forcefully construes, formulates and maintains notions of intelligence and giftedness.

For further development of this idea, a historical perspective is called for. We find that the history of modern school is intermingled with that of another major carrier system of intelligence, i.e. science, especially psychology and psychometrics.

A HISTORICAL ANALYSIS

It is evident that the modern concept of intelligence developed in close association with the establishment of compulsory mass education, which resulted in practical needs to classify pupils (Samelson, 1979; Rose, 1990). This association had a significant influence on both the key ideas of the modern notion of intelligence and the methods of assessing intelligence.

Our study set out to examine the relationship between the functioning of the school and the modern notion of intelligence with its implications to the definition of educability (Rätty *et al.*, 1995). Two problems were formulated: (1) the contribution of psychometric measurement to the conceptualisation of individual differences at school, and (2) the role of the psychometric notion of intelligence in the conceptualisation of educability.

MEASUREMENT OF DIFFERENCES

A characteristic feature of the concept of an individual shared by the school and psychometry is its differential nature: a person is defined, and is seen as interesting, only in relation to group norms, expressed in terms of 'a normal distribution' (Danziger, 1990).

We analysed directives issued by school authorities and national committee reports on pupil assessment during this century in Finland. The major finding was that school assessment has been homogenised in terms of the psychometric model. This development has closely followed the expansion of compulsory education.

The early 1920s Act of Compulsory Education enhanced the selective function of school reports. Attention was paid to the comparability of these reports. This trend showed up as an increase in directives calling for formal examinations and urging the marks to be given according to the idea of a normal distribution.

The establishment of the comprehensive school system in the early 1970s extended the age of compulsory education and thus intensified the problem of individual differences. The problem was faced by an explicit introduction of norm-referenced assessment and standardised national testing. The implementation of remedial education expanded as a means of internal differentiation within the comprehensive school system.

We are now moving towards a new educational ethos that can be characterised as 'market-orientation' and 'freedom of choice'. Our prediction is that the increase of individual choice will further increase the need for psychometric comparisons because all

concepts that are brought to the school tend to become differential concepts. Paradoxically, then, yearning for greater freedom is apt to result in the opposite, greater standardisation.

DEFINING EDUCABILITY

An inherent notion in any psychometric theory is the idea that a pupil's educability cannot be evaluated solely on the basis of his/her educational achievement (e.g. Rust & Colombok, 1989).

Our analysis of views of educability focused on expert discussion carried on in Finnish educational journals during this century. The results suggested that the researchers of intelligence have construed their claim of expertise by drawing a sharp distinction between two explanations for school success: (i) '*genuine achievement*', originating from natural, spontaneous and inborn abilities, and (ii) '*pseudo-achievement*', usually labelled deprecatingly as 'school skills', originating from hard work, industriousness, memory and rote learning, and conformity.

The first example of this distinction comes from the beginning of this century. There were discussions about the potential of Binet's 'metric scale' for giving a more objective estimation of pupils' intellectual facility than teachers' and parents' evaluations, which were seen as subjective and 'too academic'. Another example is from the 1950s, when some prominent Finnish psychologists prepared guide books to help teachers to distinguish naturally gifted – 'though sometimes lazy' – pupils from those who were able to bluff their teachers by working hard and doing well in examinations.

The distinction between real achievement and pseudo-achievement is by no means a Finnish historical curiosity. It is "a distinction which runs throughout our educational system", as Walden and Walkerdine (1985) note. And, as their analysis showed, the distinction presupposes a possibility to be successful for "the wrong reasons", an explanation that is prone to uphold the notion of fundamental gender differences. Such was actually the case in a recent Finnish discussion of girls' school achievement: Girls were argued to succeed better than boys because girls are hard-working and social – i.e., for the wrong reasons.

To sum up, our analysis supports the argument that the differential psychological notion of intelligence is alive and well in the context of the modern Finnish school.

ETHOS OF EDUCABILITY

The results of the historical analysis call for clarification of our theoretical thinking in two respects.

First, there are remarkable similarities between the notion of educability discussed above and 'the theory of natural giftedness' recognised by Mugny and Carugati (1989). The theory of natural giftedness, too, demands special treatment for the gifted and seeks to naturalise individual differences by suggesting that intelligence is a gift, mainly a theoretical one, that is divided unequally among the population.

What we would like to propose on the basis of our analysis is that the social representation of educability constructed by our school system is basically an individual-differential notion that is defined in terms of the differential psychological notion of intelligence. According to this ethos of educability, pupils enter school with

varying 'nature-given' educational potentials, which determine — and should determine — their academic success and the choices open to them; the main duty of the school is to identify this potential objectively and to take it into consideration in its pedagogy.

Second, if we want to study social representations as group conceptions, we must look into the group's relationship to the school. In an educational system, parents are far from being a uniform group since the school does not treat pupils neutrally but in accordance with their parents' social position (e.g. Bourdieu & Passeron, 1977; Oakes, 1985). The content of the social representations of intelligence that parents hold will be governed by their position in the educational hierarchy.

EDUCATIONAL ATTITUDES

In a study on parents' attitudes towards ongoing school reforms in Finland (Rätty et al., in press), we surveyed the relationship between parents' social position – measured by socio-economic status and level of education – and their conceptions of intelligence. The subjects (N=563) were a nation-wide sample of parents, both mothers and fathers, with a child aged 9 or 10.

VIEWS ON GIFTEDNESS

The results of a factor analysis of the parents' attitudes suggest that the definition of giftedness – a prominent issue in Finnish educational discourse – makes up an important part of educational attitudes. Giftedness and intelligence are categories that parents use when constructing their relationships to the school. According to our findings, two different notions of giftedness can be sketched:

The first is an idea of giftedness as a '*genuine category*', defined as a mainly theoretical or mathematical facility available only for few, who need special education and separate schools; this idea was linked to other differential educational views, such as support for competition among schools and for their public assessment and ranking.

The second is an idea of giftedness as a '*socially fabricated category*', defined as containing possibilities for social bias; this idea was linked to views suspecting that the freedom of choice, competition and ranking of schools lead to discrimination based on parents' social background.

The respondents' endorsement of educational attitudes was clearly associated with their social position. Middle-class parents were more in favour of 'selective' educational policy and also stronger believers in the notion of genuine giftedness. Working-class parents, on the other hand, were more in favour of 'comprehensive' educational policy and stronger believers in the notion of equality.

CONFIDENCE IN INSTITUTIONAL DEFINITIONS

The above findings seem to imply that there are differences among social groups in the confidence they have in institutional definitions of intelligence. A similar case was observed in our study of the public's opinions: the respondents of a low educational level tended to support more relativistic views – e.g. by questioning the competence of science to define intelligence – than did the respondents of a high educational level (Rätty, Snellman & Vornanen, 1993).

We may conclude that the 'distances' of different social groups from the major carrier systems of social representations of intelligence are different. This is, we think, an important observation. These differences may well indicate critical variation in the attitudinal orientation of social representations (cf. Doise et al., 1994). Social representations of different groups have a different dilemmatic nature – which, in a way, represents an 'unfamiliar element' that contributes to the development of social representations.

For the benefit of further research, we would like to offer some tentative examples of the social representations of the groups investigated.

For working-class parents, the basic problem appears to be that the predominant representation of educability at school devalues them and tends to devalue their children as well by placing them on low-status, non-theoretical academic tracks. Accordingly, working class people seem to be characterised by a 'polemic' representation of intelligence which disputes the status of academic knowledge and the definition of intelligence as school-related skills.

For academic parents, the main concern is the 'compensatory' values and practices of the school, which are seen as a threat to those social contrasts that favour the middle class in terms of 'higher' (i.e. theoretical) skills and expertise. Middle-class parents' characteristic concerns seem therefore to be the special needs of gifted pupils and the allegedly homogenising influence of the school. In other words, middle-class parents are concerned about the legitimacy of the predominant representation of educability.

CONCLUSIONS

Our findings seem to show that the contents of social representations of intelligence are socially organised. Intelligence is associated with prominent hierarchical positions such as masculinity, high educational level, and social success. The different representations of intelligence crystallise in the dispute about whether these associations are real and inevitable or whether they are fabricated and, if so, by whom. There is an influential underlying distinction that is drawn between the categories of 'natural' and 'social'.

According to our findings, the subjects' positions in social hierarchies tend to organise their representations of intelligence. These positions include education and economic status, fostererhood (the adult vs. child hierarchy) and teacherhood (the expert vs. layman hierarchy). In all these hierarchies, people in higher positions are inclined to naturalise intelligence and to have confidence in the differential psychological conception of intelligence.

As we argued above, the differential notion of intelligence is maintained by the school system. This notion shows up as a paradoxical attitude towards school success. Good achievement is not enough unless it is for the right reasons: 'genuine' giftedness and 'real' intelligence. It is the gender of the pupil and the social position of his or her parents that are used as clues to the genuineness of academic achievement.

Our subjects seemed somewhat reluctant to define intelligence. In the light of that, it is interesting that the school system nevertheless functions through its familiar, everyday practices and routines, according to the predominant definitions of intelligence, without much resistance. The predominant representation of educability is no longer a matter of definition and dispute, then, but a question of routines which seem self-evidently to

belong to the school. And it is these routines that create a 'natural environment' (Moscovici, 1984), a set of social representations that makes up the system called school.

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Hannu Rätty
Department of Psychology,
University of Joensuu
P.O.Box 111
SF-80101 Joensuu
Finland

Leila Snellman
Department of Education
University of Joensuu
P.O.Box 111
SF-80101 Joensuu
Finland